

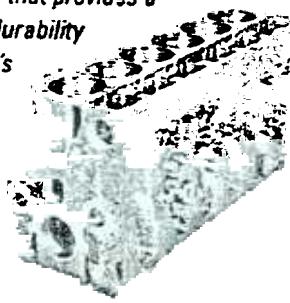
# Fuel Economy Champion of Fleet Engines

## Engine Features and Enhancements

- *One-piece, serpentine block for extra strength and rigidity, and lower overhaul costs.*
- *Externally-mounted, gear-driven oil pump for easy servicing.*
- *Wastegate turbocharger provides better bottom-end response, improved fuel economy and less heat rejection.*
- *More robust camshaft designed for improved reliability.*
- *Two-piece, oil-cooled pistons to handle higher internal engine pressure, permitting higher ratings for this engine.*
- *Valve seat inserts are pre-machined before being pressed into the head to improve durability.*
- *Induction-hardened crankshaft wear surfaces for long life-to-overhaul.*
- *Mid-supported liner for greater cooling around the upper liner area, for increased reliability and durability.*
- *One-piece uniflow head design for better air flow, lower heat rejection and more effective coolant flow, which improves reliability and durability.*
- *One iron set for the entire horsepower range, providing for easy uprating at trade-in time and increased residual value.*

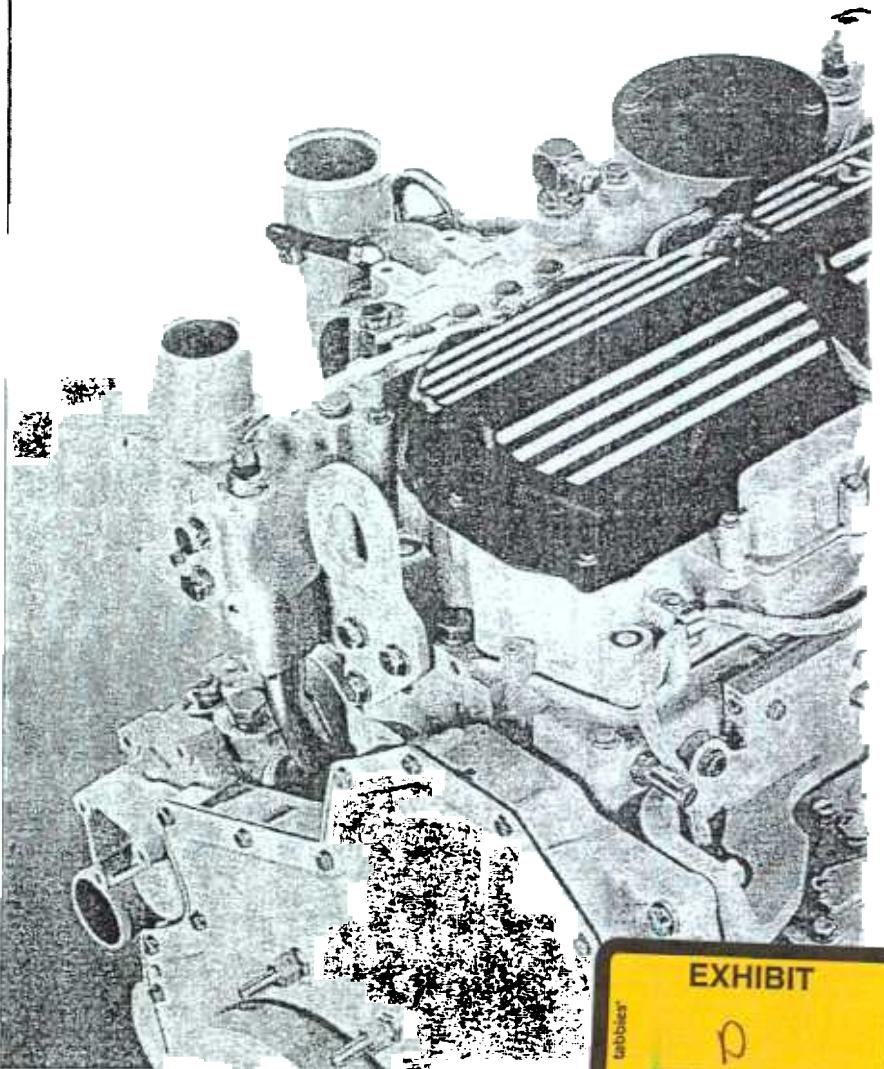
## Cylinder Block

*Engine durability begins with its foundation — the engine block. The serpentine design of the C-12 and C-10 block provides maximum strength in a reduced weight design. It is a single-piece, deep-skirted design that provides a solid base for the durability you require in today's trucking business.*



Exceptional fuel economy, reliability and long life-to-overhaul. It all adds up to the Cat C-12, the engine with the lowest total cost of ownership in its class. The C-12 is the leading engine choice for fleets who want excellent performance and fuel economy in a lightweight package.

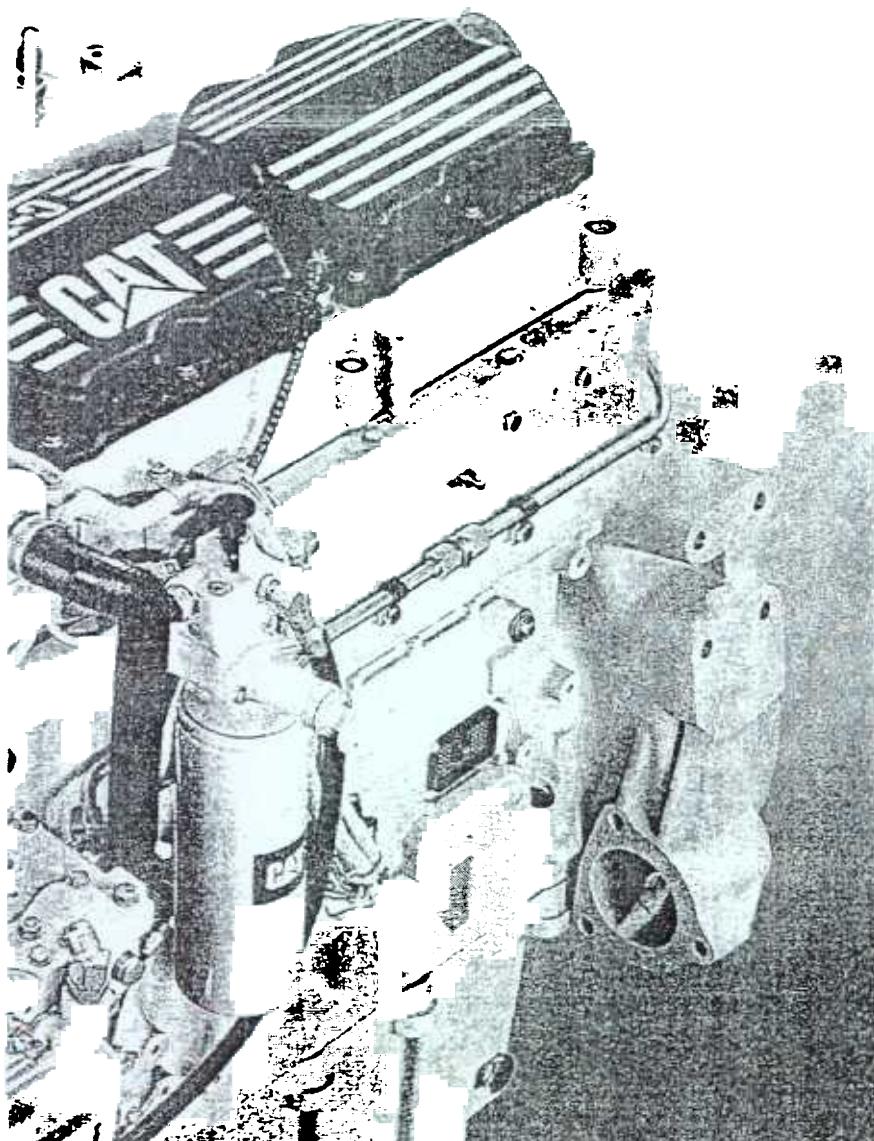
Weighing in at only 2,070 lbs. (940 kg), with horsepower ranges from 335 hp to 430 hp (250 to 321 kW), the C-12 has the best payload-to-weight ratio in the industry. And, with up to 800 pounds of additional payload capability compared to other diesels in its horsepower range, the C-12 can substantially improve your bottom line.



## 12.0-LITER C-12 ENGINE 335 to 430 hp

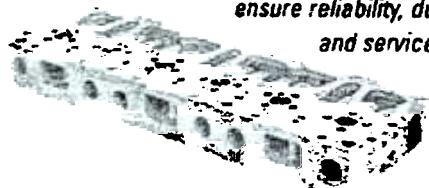
Reliability results for the C-12 continue to exceed tough Caterpillar engine standards, and it has a conservative 900,000-mile B-50 life-to-overhaul. The C-12 also offers up to a 31 percent cost savings, based on recommended scheduled maintenance guidelines versus competitive engines in its size class.

Truck owners aren't the only ones pleased with the C-12 engine's superior efficiency and overall value. This engine's outstanding hill-climbing power and impressive throttle response go a long way in making drivers happy, too.



### Cylinder Head

The cylinder head is designed for maximum breathing, which helps ensure excellent fuel efficiency. This one-piece, stress-relieved, gray-iron casting has four valves per cylinder. Robust intake and exhaust valves aid air flow and provide excellent reliability and fuel efficiency. Serviceable stainless steel injector sleeves house the unit injector, and the injector seats on the head rather than on the sleeves to help ensure reliability, durability and serviceability.



### Unit Injectors

The mechanically-actuated, electronically-controlled unit injector combines an electronic actuator, pump assembly and nozzle into a single, compact unit for reliability and durability. The advanced electronics of the C-12 fuel system have been put to the test in thousands of engines in some of the most rigorous applications and environments around the world.



### Pistons

The two-piece, articulated piston design consists of a forged-steel crown for maximum strength and a cast aluminum skirt to reduce weight. The crown, skirt and connecting rod are held together by a large piston pin. The aluminum skirt runs cooler than conventional pistons, allowing a closer fit to the cylinder liner and providing longer life. The steel crown handles the higher internal pressures of today's engines.



# Tough Power for Tough Vocational Applications

## Engine Features and Enhancements

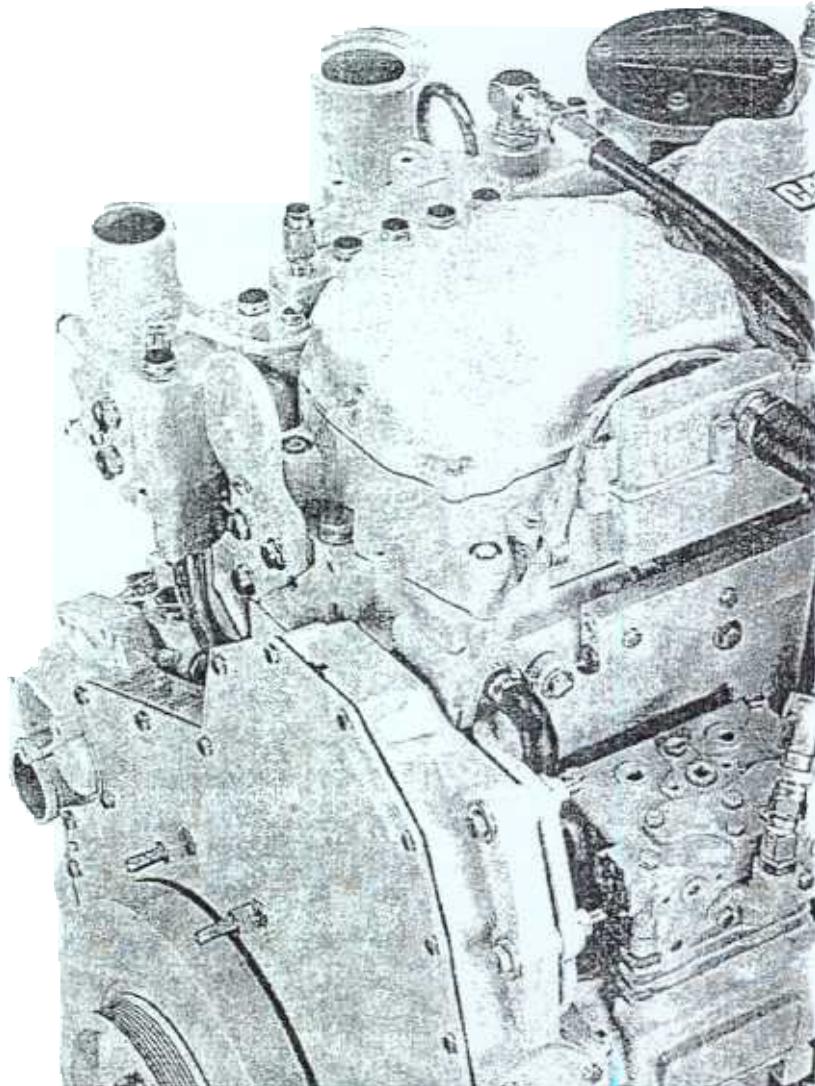
- One-piece serpentine block, for extra strength and rigidity and lower overhaul costs.
- Wastegate turbocharger provides better bottom-end response, improved fuel economy and less heat rejection.
- Externally-mounted, gear-driven oil pump for easy servicing.
- Two-piece oil-cooled pistons to handle higher internal engine pressure, permitting higher ratings for this engine.
- More robust camshaft design for improved reliability.
- Valve seat inserts are pre-machined before being pressed into the head to improve durability.
- Induction-hardened crankshaft wear surfaces for long life-to-overhaul.
- Mid-supported liner for greater cooling around the upper liner area.
- One-piece uniport head design for better air flow, lower heat rejection and more effective coolant flow, which improves reliability and durability.

## Cylinder Block

The cylinder block is a single-piece, stress-relieved, deep-skirted design made from 32,000 psi (220 480 kPa) tensile-strength cast iron to provide maximum lower-end durability. Cat cylinder blocks are cast at Caterpillar's own foundry located near the Mossville, Illinois Engine Center. Quality is maintained through intensive process control programs.



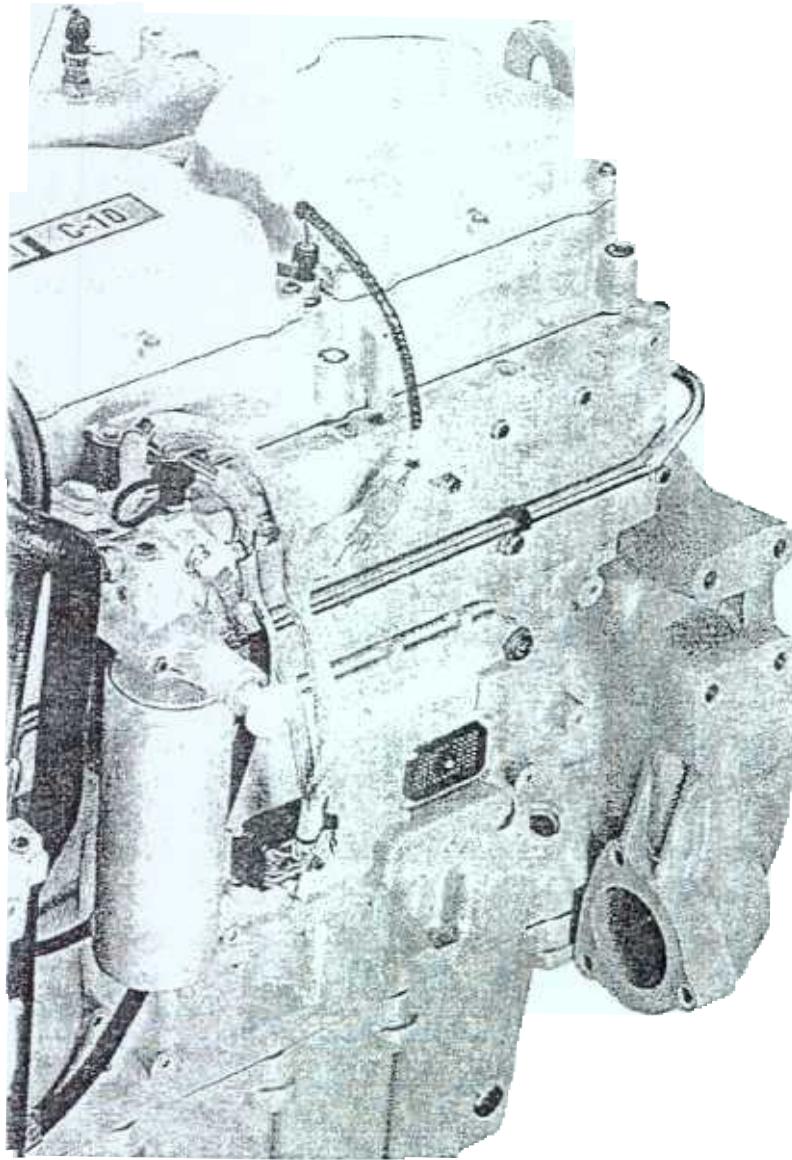
For vocational customers or fleets who want a lightweight, responsive product with electronic controls, the Cat C-10 delivers at a value price. Customers will also benefit from the significant operating cost savings of the C-10 versus competitive engines. The C-10 can provide up to a 31 percent cost savings, based on recommended scheduled maintenance guidelines versus competitive engines in its size class. Typical published standard overhaul parts guidelines as recommended by Cat and competitors, the C-10 offers up to 23 percent savings in parts costs at overhaul.



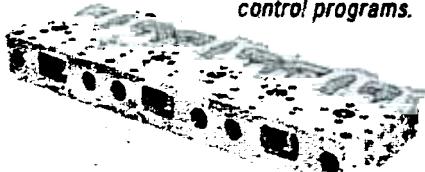
ations

**10.3-LITER C-10 ENGINE 305 to 370 hp**

With reliability ratings that exceed even Caterpillar's tough standards, the C-10 is possibly the most reliable engine in the industry. It has a B-50 life-to-overhaul of 900,000 miles, so it will keep your operation running in top form for a long time. The Cat C-10 is a driver's engine in the true Caterpillar tradition, delivering outstanding hill-climbing power, even with maximum gross loads.

**Cylinder Head**

The cylinder head is a one-piece, stress-relieved, gray-iron casting with four valves per cylinder. Intake and exhaust valves are equal in size and strength to those found in larger displacement engines, to provide maximum reliability and performance. Stainless steel injector sleeves, press-fit into the head, help ensure good serviceability. Caterpillar cylinder heads are also cast at the Caterpillar foundry, where quality is maintained through rigorous process control programs.

**Crankshaft**

The crankshaft is a steel forging with induction-hardened journals and fillets. The wide center and end main journals and bearings are designed to maintain maximum oil film thickness for excellent lubrication and for cooling the bearings. The result is long life-to-overhaul.

**Unit Injector**

The C-10 features the same proven system as the C-12, with mechanically-actuated, electronically-controlled unit injectors which combine an electronic actuator, pump assembly and nozzle into a single, compact unit for reliability and durability. State-of-the-art electronic controls allow precise timing and fuel metering, thus delivering superior fuel efficiency.



# Proven Power for Medium-Duty Trucks A

## Engine Features and Enhancements

- **Deep-skirted block with built-in oil cooler for extra strength and rigidity for the complete block structure.**
- **Steel-forged crankshaft with induction-hardened journals and fillets for maximum reliability and durability.**
- **Cast iron water pump has higher pressure, which provides additional flow for improved durability.**
- **Larger swing arm roller cam followers for improved durability and less friction.**
- **Forged steel connecting rods with tapered keystone-shaped small end. The connecting rod is removable through the top of the engine for easy servicing.**
- **Unique three-valve, cross-flow cylinder head results in better cooling and increased fuel economy.**
- **250, 275 and 300 hp engines feature the same wastegate turbocharger as 330 hp engines.**
- **Advanced ADEM 2000 electronics package, featuring similar features found in Cat heavy-duty engines.**

## Cylinder Block

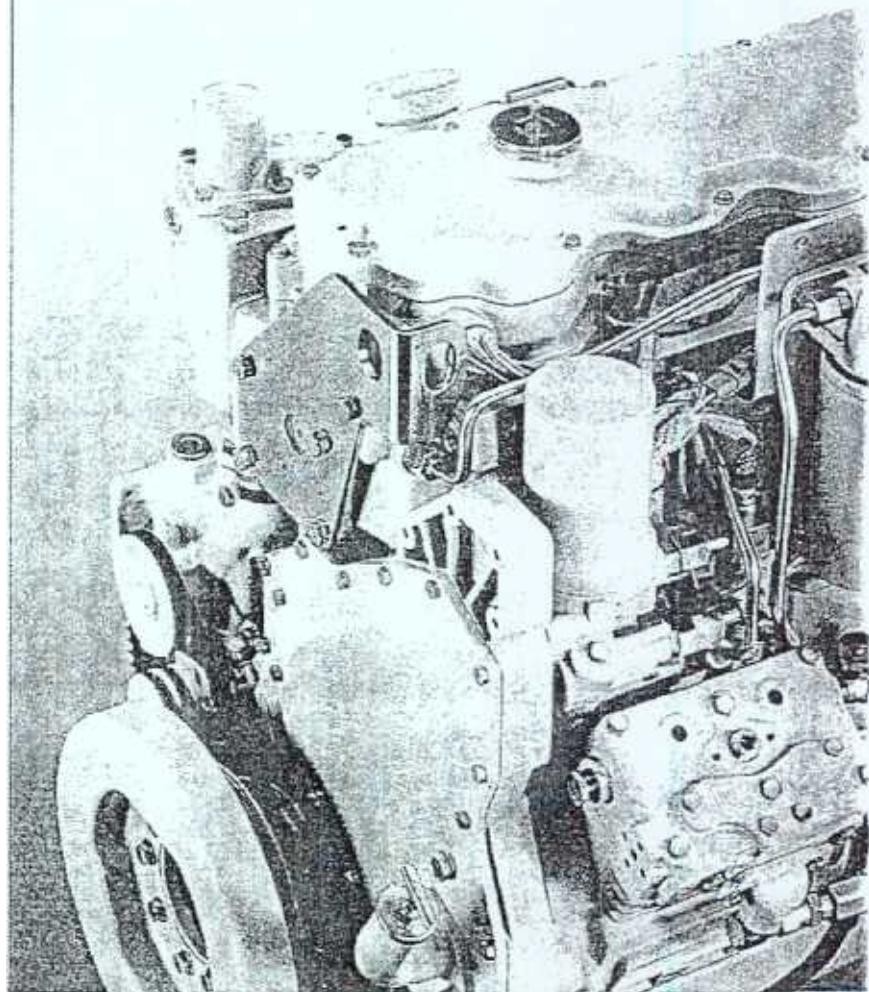
Engine durability starts with a strong foundation — the engine block. The 3126B engine block consists of a deep-skirt, cast-iron alloy design made from 30,000 psi (206 700 kPa) minimum-strength cast iron. Increased top deck thickness and built-in oil cooler provide extra strength and rigidity throughout the block structure.



The Cat 3126B delivers impressive Cat engine power in a hard-working, mid-range engine for on-highway, city delivery bus, and a variety of vocational applications, including refuse hauling, construction, snow plows, fire trucks, school buses, RVs and utility boom trucks.

And today, there's even more to gain from the 3126B — improved response, better fuel economy, upgraded fully featured ADEM 2000 electronics and more. The 3126B gives you access to features currently found only on heavy-duty electronic engines.

You also gain the advantage of a breakthrough in fuel injection technology with the unique Hydraulically-actuated, Electronically-controlled Unit Injector (HEUI) fuel system. The Caterpillar designed HEUI System provides outstanding performance, driveability and fuel economy.



# Medium-Duty Buses

## 7.2-LITER 3126B ENGINE 175 TO 330 hp

The 3126B features horsepower ratings from 175 to 300 hp (130 to 224 kW), plus a 330 hp (246 kW) rating for fire trucks, emergency vehicles, tow trucks and RVs.

When you look at this engine's outstanding performance and flexibility, you'll know why the 3126B is considered the number one engine choice for medium-duty truck or bus owners.

### Forged Steel Crankshaft

A forged steel crankshaft with induction-hardened journals and fillets provides maximum reliability and durability. The main bearing diameter of the 3126B crankshaft is significantly larger than competitive mid-range engine designs, which causes the load to be spread over a larger surface area. This feature eliminates a considerable amount of wear and tear on the crankshaft, providing excellent durability and reliability.



### Heavy-Duty Pistons

Heavy-duty, oil-cooled pistons deliver long life, quiet operation, excellent combustion efficiency and reduced emissions. The two-piece articulated piston is the same design used on heavy-duty Cat engines. The pistons consist of a forged steel crown able to endure high injection pressures and temperatures and a lightweight, yet durable, cast aluminum skirt. Low horsepower ratings (175-210 hp) feature a new, single-piece aluminum piston with a new wrist pin and oil cooling jet. The new piston design provides reduced emissions, increased fuel economy, reduced noise and increased reliability.



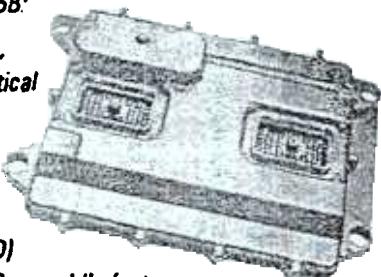
### HEUI Fuel System

The Hydraulically-actuated, Electronically-controlled Unit Injector fuel system gives the 3126B the powerful performance of heavy-duty Cat truck engines. The advanced electronics of the HEUI system work with the engine's Electronic Control Module (ECM) to deliver improved fuel economy, better load-starting performance, low speed lugging capability and more precise full-range governing than mechanical systems can offer.

### ADEM 2000 Electronics

With the introduction of the ADEM 2000 electronics, the following features are now available on the Cat 3126B:

- Real Time Clock with battery back-up, allowing date and time stamping of critical engine events
- Quick Stop Recorder
- Fleet Information Software capability
- Cat Driver Information Display (Cat ID) capability, with Theft Deterrent and Secure Idle features
- Prevent Starter Engagement with Engine Running feature
- Multi-speed PTO feature, with two additional PTO set speeds



# Harness the Best Protection for your Investment

## WARRANTY COVERAGE

The Caterpillar standard warranty\* for heavy-duty truck engines covers parts and labor for 2 years/unlimited mileage and has an extended warranty on major components up to 5 years/500,000 miles/10,000 hours. The Caterpillar standard warranty\* for the 3126B, on-highway applications covers parts and labor for 3 months/150,000 miles or 3,600 operating hours (whichever occurs first after delivery date). Five years unlimited mileage protection for school bus, emergency vehicles or fire trucks. Extended Service Coverage is also available. Plus, Cat's Truck Owner Protection Plan (TOPP)\* and Overhaul Protection for Trucks (OPT)\* are other exclusive Caterpillar programs designed to fit your business and protect your investment. For pre-owned truck engines, various "Advantage" used truck engine protection programs are available.

## TRUCK OWNER PROTECTION PLAN (TOPP)

The TOPP program, offered exclusively by Caterpillar, lets you control your costs with a guaranteed cost of operation based on miles, hours of use, or gallons of fuel consumed (whichever is most appropriate for your application). TOPP covers, from the beginning, the future costs of all towing, emergency repairs, scheduled services and component replacements.

With TOPP coverage, you receive:

- Customized coverage to fit the mileage, hours and fuel consumption of your specific truck. The program can be further customized with coverage to include the engine brake, starter and alternator, engine vee-belts, coolant hoses and oil change services.
- A guaranteed fixed rate cost for the life of the contract.
- Around-the-clock assistance — 24 hours a day, 7 days a week.
- Your own appointed customer service representative to monitor all aspects of service for your Cat truck engine.
- Quarterly, detailed engine service reports.
- Guaranteed transferability and extension of coverage to increase the value of your truck at trade-in time.

## OVERHAUL PROTECTION FOR TRUCKS (OPT)

Caterpillar's OPT program provides you with truck engine protection against unexpected repair costs for qualified parts. The OPT program:

- Guarantees that your engine will receive a certified overhaul by an authorized dealer.
- Covers Cat 3126B, 3176, 3306, C-10, C-12 and 3406 engines for 24 months or 200,000 miles. Coverage is also available for the 3208.
- Provides up to 2 years additional warranty coverage for engine components that either passed inspection or were replaced or repaired at the time of overhaul.
- Covers dealer workmanship related to the overhaul.
- Pays 100 percent of the parts and labor charges, with no deductible, to repair or replace any qualified part that fails.
- Can increase the value of your truck because it is fully transferable to a new owner, with coverage in effect for the time remaining on the plan.

\* See your dealer for full details and conditions.



# Statement.

## EXTENDED SERVICE COVERAGE FOR PRE-OWNED TRUCK ENGINES

### ADVANTAGE I

Advantage I provides coverage on your pre-owned 3116, 3126, 3176, 3306 C-10, C-12 or 3406 truck engine for 2 years or 200,000 miles. Coverage pays 100 percent of the parts and labor on covered components, with no deductible.

You must purchase Advantage I on the date you buy your used truck. Engines must pass a visual inspection performed by a Caterpillar dealer or authorized dealer. To qualify, the engine must be less than 6½ years old with fewer than 650,000 miles.

All engine repair work must be performed by an authorized Caterpillar Truck Engine parts and service outlet.

### ADVANTAGE II

Advantage II provides additional component coverage for 3116, 3126, 3176, 3306, C-10, C-12 or 3406 truck engines with a \$0 deductible or an optional cost-saving \$150 deductible for 1 year or 100,000 miles.

You must purchase the coverage on the day you buy your used truck. Engines must pass a full inspection conducted by an authorized Caterpillar truck engine parts and service outlet. To qualify, the engine must be less than 7½ years old with fewer than 750,000 miles.

Engine repairs must be performed by an authorized Caterpillar Truck Engine parts and service outlet.

### ADVANTAGE III

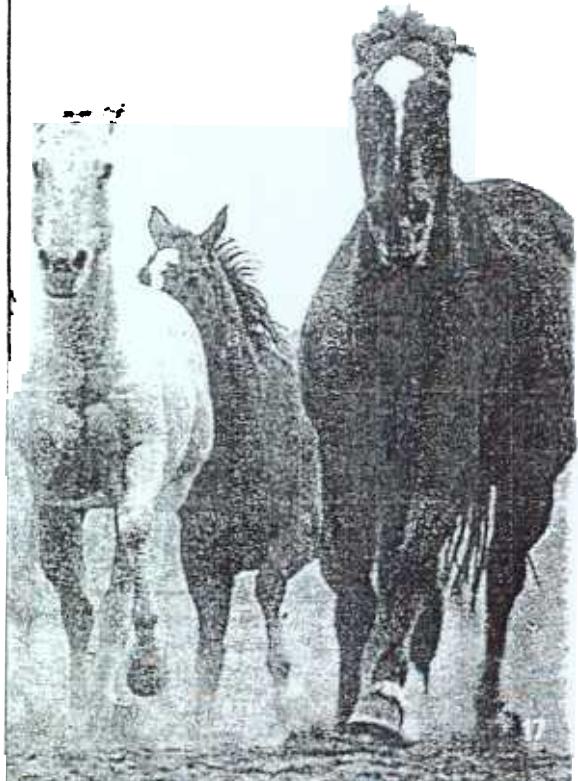
Advantage III combines features of Advantage I and II. You get Advantage II coverage for the first 12 months or 100,000 miles. You get Advantage I coverage from 13 months to 24 months or 200,000 miles. Advantage III is available with a \$0 deductible or an optional \$150 deductible. Eligibility requirements are the same as those for the Advantage II program.

### ESC PLUS

Extended Service Coverage (ESC Plus)\* is an optional repair cost protection plan beyond the standard warranty period for owners of all on-highway trucks powered by Cat truck engines. The coverage pays 100 percent of parts and labor charges for any covered failures caused by defects in materials or workmanship under normal use and service.

### *ESC Plus Features:*

- Coverage matrix up to 5 years or 500,000 miles.
- 100 percent of the parts and labor needed to repair engine damage resulting from the failure of covered components. You pay no deductible.
- Lube oil, filter elements, hoses, seals and vee-belts or gaskets — if made unusable as a result of a covered failure.
- Increased resale value for your truck.



# Auxiliary Brakes for Greater Control

Today's more efficient diesel engines, advanced radial tire designs and more aerodynamic chassis designs have reduced the truck's natural retarding power, placing greater demand on service brakes. An auxiliary braking device provides the extra braking power you need for greater control in any situation that calls for reduced speed.

An auxiliary brake makes vehicle operation more efficient and economical. It decreases service brake wear and maintenance, prevents brake fade and overheating, and lengthens primary brake life. An auxiliary brake system also reduces wear and tear on the engine, drivetrain and tires. And, it allows higher downgrade speeds for faster trip times and increased productivity.



## **Caterpillar's BrakeSaver Hydraulic Retarder**

- Exceptional retarding capability of up to 380 retarding horsepower at the drive wheels, depending on horsepower rating and rpm.
- Operates in manual or automatic modes. Ideal for demanding on- or off-highway applications.
- Smooth, gradual engagement allows maximum control in adverse weather conditions, and it's quiet.
- Noise-free operation creates a quiet driver environment.
- Excellent modulation allows driver to control the exact amount of retarding power.
- Available on C-15 and C-16 engines only.

## **Jacobs Compression Release Brake**

- Provides 50 percent to 150 percent of the engine's rated horsepower, depending on engine rpm and horsepower setting.
- Lightweight
- Interfaces with electronic engines.
- Available on C-10, C-12, C-15 and C-16 engines.



## **TRUCK SPEC'ING BY COMPUTER**

*The secret to a "good" spec is a thorough analysis of a customer's performance requirements and the correct selection of driveline components to maximize performance and fuel economy. Cat Truck Engine Pro (CTEP) is a CD-ROM-based software program that allows you and your dealer to compare performance of specific driveline component combinations. It also includes an industry-exclusive route simulation program where selected specifications can be run on more than 30,000 miles of U.S. and Canadian interstate routes to more accurately evaluate vehicle performance and fuel economy.*

*See your Caterpillar dealer or truck dealer for more information on Cat Truck Engine Pro.*

## *Parts and Service Support, When and Where it's Needed.*

*When it comes to keeping you operating in top form, Caterpillar backs you best with the industry's most responsive service network. Outstanding service, paired with Caterpillar parts, will help you get maximum life and performance from your Cat truck engine.*

*With thousands of authorized Caterpillar parts and service locations across North America, you can be assured of convenient access to Caterpillar parts and service. Superior quality and greater value are what sets Caterpillar product support above the competition. After investing in a Cat truck engine, sticking with Cat parts and service can be the second most profitable business decision you'll make.*

*For a free copy of the Cat Truck Engine Parts and Service Directory, call 1-800-447-4986.*

*The Caterpillar Truck Engine Call Center provides 24-hour service assistance, seven days a week. Full-time Caterpillar technicians help arrange emergency on-the-road engine assistance. You can connect with the Call Center by dialing toll-free 1-800-447-4986, e-mail at [CALL\\_CAT@CAT.com](mailto:CALL_CAT@CAT.com). You'll reach a trained expert who can help keep your Cat truck engine on the road.*

*If you need further information on Cat truck engines, see your local Cat dealer or visit our Web site at [www.cattruckengines.com](http://www.cattruckengines.com).*

HARNESS THE POWER

**CATERPILLAR®**

UNITED STATES DISTRICT COURT  
DISTRICT OF MASSACHUSETTS

CIVIL ACTION NO. 04-11836-RCL

TRANS-SPEC TRUCK SERVICE, INC. )  
d/b/a TRUCK SERVICE, )  
Plaintiff )  
vs. )  
CATERPILLAR INC. )  
Defendant )

**AFFIDAVIT OF JOSEPH M. HOWARD, JR.,  
IN SUPPORT OF PLAINTIFF'S MOTION TO AMEND**

I, Joseph M. Howard, Jr., state:

1. I am the President of Trans-Spec Truck Service, d/b/a Truck Service ("Trans-Spec").
2. Trans-Spec's Automatic Disclosures, tendered on November 10, 2004, document more than sixteen separate flywheel housing repairs performed in house by Trans-Spec on the engines.
3. To date, Trans-Spec has had to make no less than eighteen in house repairs to the flywheel housings on the trucks at issue, in addition to performing other work related to the damage caused by the defective Caterpillar C-12 engines.
4. Trans-Spec had to purchase and install a new engine in one of the trucks at issue.
5. Caterpillar had full knowledge, in advance, of the repair work performed by Trans-Spec, and Milton CAT's Al Cardoza routinely inspected the repair work following its completion.
6. Nonetheless, and in full breach of its warranty obligations, Caterpillar declined to reimburse Trans-Spec in any way for either parts or labor associated with these repairs.



7. Trans-Spec asserts a bona fide claim based on its good faith belief that Caterpillar negligently designed, developed, assembled, manufactured, inspected, tested, marketed, advertised, and distributed the C-12 engines purchased by Trans-Spec.

8. Thus far, other than attorney-produced materials, Trans-Spec has fully opened its files to

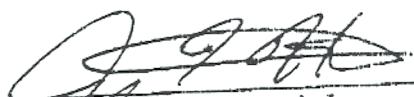
9. **Caterpillar.**

10. Caterpillar already has access to all of Trans-Spec's documentation

11. The damage caused by Caterpillar's defective engine units was not confined to the engines alone.

11. Caterpillar's defective engine units not only caused damage to other critical systems throughout Trans-Spec's trucks, they caused oil leaks which damaged Trans-Spec's property and that of Trans-Spec's customers.

SIGNED UNDER THE PENALTIES OF PERJURY THIS 19 DAY OF APRIL, 2005.



Joseph M. Howard, Jr.

**CERTIFICATE OF SERVICE**

I, Christian G. Samito, hereby certify that on this 12<sup>th</sup> day of April, 2005, I served a copy of the foregoing, by mail, postage prepaid to:

John A. K. Grunert, Esq.  
Christopher Howe, Esq.  
Campbell Campbell Edwards & Conroy  
One Constitution Plaza, 3<sup>rd</sup> Floor  
Boston, MA 02129

  
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Christian G. Samito, Esq.

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